

Appl. No. 09/822,684
Amdt. Dated 11/08/2005
Reply to Office Action of 08/11/05

REMARKS/ARGUMENTS

Claims 1-8, 13-20, and 25-30 are pending in the present application. Claims 9-12, 21-24, and 31-34 have been withdrawn.

This Amendment is in response to the Office Action mailed August 11, 2005. In the Office Action, the Examiner rejected claims 1-5, 8, 13-17, 20, 25-29 under 35 U.S.C. §103(a). In addition, the Examiner indicated allowable subject matter for claims 6-7, 18-19, and 30 if they are rewritten in independent form including all of the limitations of the base claim and any intervening claims. Reconsideration in light of the remarks made herein is respectfully requested.

Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-5, 8, 13-17, 20, 25-29 under 35 U.S.C. §103(a). Applicants respectfully traverse the rejection and contend that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-129 (8th Ed., Rev. 2, May 2004)*. Applicants respectfully contend that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

1. Claims 1 and 13 are being rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,117,186 issued to Wydall et al. ("Wydall") in view of U.S. Patent No. 6,094,720 issued to Cromer et al. ("Cromer").

Wydall discloses a system and method for easy loading of cd-rom computer software without installation process. If the Operating System (OS) is Win95, then if the auto insert notification is enable, the OS runs the autorun.inf file that executes Win95.exe, if the auto insert notification is not enabled, then the user has to run Win3.1.exe(Wydall, col. 7, lines 14-22).

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Cromer discloses a computer system having automatic power and initialization for in-box configuration. Once the system is energized, the BIOS disables configuration mode by changing a value in a NVRAM 94 which effectively only enables the automatic detection and initialization to configuration to the first boot (Cromer, col. 8, lines 59-67; col. 9, lines 1-7).

Wydall and Cromer, taken alone or in any combination, does not disclose, suggest, or render obvious (1) configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, (2) detecting insertion of a medium into a drive based on the mode word, and (3) starting a program on the medium when the insertion is detected.

The Examiner states that Wydall discloses configuring a mode as auto insert notification (Office Action, page 2, paragraph 4). Applicants respectfully disagree. The auto insert notification is a feature in the Windows 95 Operating System that allows the user to enable or disable to execute a program when a CD-ROM is inserted. If Auto Insert Notification is enabled, as is by default, arbitrary code can be executed when a CD-ROM is inserted. The auto insert notification is set up by the Windows 95 OS, and is not a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up.

The Examiner further states that Wydall discloses detecting insertion of a medium into a drive based on the mode (Office Action, page 2, paragraph 4). Applicants respectfully disagree. Wydall merely discloses that the Windows 95 OS has an AutoPlay feature which allows the OS to automatically operate a CD-ROM. "Automatically operate" a CD-ROM is not the same as "detecting insertion of a medium into a drive". Furthermore, since the Windows "automatically" operates a CD-ROM, it cannot detect insertion of a medium based on the mode word.

The Examiner states that Cromer discloses configuring a mode in a configuration map store in a non-volatile memory during boot up (Office Action, page 3, paragraph 7). Applicants respectfully disagree.

Cromer merely discloses detecting a configuration mode (Cromer, col. 7, lines 38-46; col. 8, lines 45-50), not configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up. The system is enabled for configuration during manufacturing process. The process shown in Figure 6 is for steps to place a custom image on the hard drive, not to detect insertion of a medium into a drive.

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Cromer merely teaches that the system is operative to detect whether it is in a configuration mode when a power source and a network connection are made through the packaging (Cromer, col. 2, lines 42-45). The computer system is enabled for configuration mode during the manufacturing process (Cromer, col. 8, lines 24-26). Therefore, it cannot configure a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up. Furthermore, the intended purpose of Cromer's system is to reconfigure a generic system unit in its packaging to provide customization for a respective user (Cromer, col. 7, lines 44-46), not to allow detection of insertion of a medium. In addition, the NVRAM merely contains system configuration data such as the type of fixed disk or diskette, the list of IPL devices, the type of display, the amount of memory, time, date, etc (Cromer, col.5, lines 9-13). None of these data is related to detection of insertion of a medium.

2. Claims 2 and 14 are being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall and Cromer as applied to claims 1 and 13 above, and further in view of non-patent material message-ID <marnoldDzIG2w.MqJ@netcom.com> submitted by Matt Arnold to newsgroup comp.os.mswindows.programmer.misc ("Arnold").

Wydall, Cromer, and Arnold taken alone or in any combination, does not disclose, suggest, or render obvious (1) configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, (2) detecting insertion of a medium into a drive based on the mode word, (3) starting a program on the medium when the insertion is detected, and (4) configuring the mode word in one of first, second, third, and fourth modes.

Arnold discloses modifying a registry key. A registry key in the Windows 95 registry may be modified to allow the shell to use AutoPlay on any media (Arnold, page 1, last paragraph). The key consists of four bytes. The first byte is a bitmask defining which drive types should be autorun (Arnold, page 2, second paragraph). The drive types include: DRIVE_UNKNOWN, DRIVE_NO_ROOT_DIR, DRIVE_REMOVABLE, DRIVE_FIXED, DRIVE_REMOVE, DRIVE_CDROM, DRIVE_RAMDISK (Arnold, page 2, third paragraph). Arnold merely discloses setting a bit in the bitmask would prevent user from using Autoplay with the corresponding drive type (Arnold, page 2, fourth paragraph). This is not the same as configuring the mode word in one of first, second, third, and fourth modes.

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As argued in the previous response, Arnold merely describes the different drive types. The types DRIVE_REMOVABLE, DRIVE_FIXED, DRIVE_REMOVE, DRIVE_CDROM, DRIVE_RAMDISK refer to the drive types, not the different modes in the mode word on which detecting insertion of a medium is based. Arnold merely discloses setting a bit in the bitmask would prevent user from using Autoplay with the corresponding drive type (Arnold, page 2, fourth paragraph), not configuring the mode word in one of first, second, third, and fourth modes.

3. Claims 3 and 15 are being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, and Arnold as applied to claims 2 and 14 above, and further in view of non-patent material message-ID <01 bda103\$140c82e0\$4ffk4ec1@pluto> submitted by Homecooking to newsgroup comp.publish.cdrom.hardware ("Homecooking").

Wydall, Cromer, Arnold, and Homecooking, taken alone or in combination, do not disclose, suggest, or render obvious: (1) configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, (2) detecting insertion of a medium into a drive based on the mode word, (3) starting a program on the medium when the insertion is detected, and (4) detecting the insertion comprising periodically polling the drive when the mode word is configured in the first mode.

Wydall, Cromer, and Arnold does not disclose, suggest, or render obvious (1), (2), and (3) as discussed above.

Homecooking merely discloses that if the user enables auto-insert notification, Windows will query the drive to see if there is a new media inserted into the drive in order to refresh the data displayed. Homecooking does not disclose or suggest periodically polling the drive when the mode word is configured in the first mode. Querying the drive does not mean periodically polling. Windows queries the drive only when the user enables auto-insert notification. Therefore, there is no periodicity. Furthermore, the query is not done when the mode word is configured in the first mode. It is only done if there is a new media inserted into the drive.

As argued in the previous response, Homecooking discloses that if the user enables auto-insert notification, Windows will query the drive. Homecooking does not disclose that if the user enables auto-insert notification, Windows will periodically poll the drive, which is what the

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claim recites. It is the Examiner's burden to prove that (1) "user enabling auto-insert notification" is equivalent to "configuring the mode word in the first mode", and (2) "Windows will query the drive" is equivalent to "periodically poll the drive".

4. Claims 4 and 16 are being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, and Arnold as applied to claims 2 and 14 above, and further in view of U.S. Patent No. 5,528,566 issued to McGee et al. ("McGee") and U.S. Patent No. 5,694,606 issued to Pletcher et al. ("Pletcher").

Wydall, Cromer, Arnold, McGee, and Pletcher, taken alone or in combination, do not disclose, suggest, or render obvious: (1) configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, (2) detecting insertion of a medium into a drive based on the mode word, (3) starting a program on the medium when the insertion is detected, and (4) detecting the insertion comprising servicing an interrupt indicating the insertion of the medium when the mode is configured in one of the second, third, and fourth modes.

Wydall, Cromer, and Arnold are discussed above. McGee discloses an apparatus for optical disc storage of optical discs and selective access and/or retrieval thereof via pneumatic control. An optical sensor is mounted on each arm of a disc engaging mechanism (McGee, col. 9, lines 63-67; col. 10, lines 1-4). The purpose of the optical sensor is to sense the presence of an optical disc (McGee, col. 10, lines 4-5). Therefore, the detection is not based on the mode word. Pletcher discloses a mechanism for using common code to handle hardware interrupts in multiple processor modes. Code is provided for an interrupt handler that may be run in multiple processor modes (Pletcher, col. 4, lines 45-47). The term "processor modes" is meant to include modes such as real mode and protected mode, as well as privilege levels (Pletcher, col. 6, lines 55-57). The processor modes, therefore, are not the mode word that is configured on which the detection of the insertion of the medium is based. The processor modes are not configured in a mode word.

5. Claims 5 and 17 are being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, McGee, Pletcher, and Arnold as applied to claims 4 and 14 above and further in view of U.S. Patent No. 5,463,752 issued to Benhase et al. ("Benhase").

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Wydall, Cromer, McGee, Pletcher, Arnold and Benhase, taken alone or in combination, do not disclose, suggest, or render obvious: (1) configuring a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, (2) detecting insertion of a medium into a drive based on the mode word, (3) starting a program on the medium when the insertion is detected, (4) detecting the insertion comprising servicing an interrupt indicating the insertion of the medium when the mode is configured in one of the second, third, and fourth modes, and (5) servicing the interrupt generated by a polling circuit in a chipset when the mode is configured in one of the second and third modes, the polling circuit detecting the insertion of the medium.

Wydall, Cromer, Arnold, McGee, and Pletcher are discussed above. McGee merely discloses that the microprocessor periodically polls each read-head modules optical sensor pair (McGee, col. 10, lines 12-15), not a polling circuit in a chipset. Polling by a microprocessor is a software technique. Benhase discloses a method and system for enhancing the efficiency of communication between multiple direct access storage devices and a storage system controller. An independent polling function may be implemented in several ways, for example with a separate microprocessor (Benhase, col. 4, lines 24-32). A processor reads status registers and the processor resets control registers in preparation for the next poll cycle (Benhase, col. 5, lines 21-23).. Benhase merely discloses using a separate microprocessor to implement an independent polling function, not a polling circuit in a chipset. None of McGee and Benhase discloses a polling circuit generated an interrupt. Furthermore, none of Wydall, Cromer, Arnold, McGee, and Pletcher discloses or suggests servicing the interrupt when the mode is configured in one of the second and third modes.

6. Claims 8 and 20 are being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, Arnold, McGee and Pletcher as applied to claims 4 and 16 above and further in view of U.S. Patent No. 5,414,858 issued to Hoffman et al. ("Hoffman").

Wydall, Cromer, Arnold, McGee, Pletcher, and Hoffman, taken alone or in combination, do not disclose, suggest, or render obvious: (1) configuring a mode word, (2) detecting insertion of a medium into a drive based on the mode word, (3) starting a program on the medium when the insertion is detected, and (4) servicing the interrupt generated by the drive.

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Wydall, Cromer, Arnold, McGee, and Pletcher are discussed above. Hoffman discloses a system and method for dynamically varying between interrupt and polling to service requests of computer peripherals. The system initiates the interrupt mode and determines the need for transition to a polling mode as defined by a combination of an interrupt count and elapsed time (Hoffman, col. 3, lines 62-66). Hoffman merely discloses transitioning from interrupt to polling. Hoffman does not disclose or suggest servicing the interrupt as part of detecting insertion based on a mode word.

7. Claim 25 is being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall and Cromer as applied to claim 1 above and further in view of U.S. Patent No. 6,189,050 issued to Sarkada ("Sakarda").

Wydall, Cromer and Sakarda, taken alone or in combination, do not disclose, suggest, or render obvious: (1) a processor, (2) a chipset to control a drive, and (3) a memory causing the processor to configure a mode word in a chipset or in a configuration map stored in a non-volatile memory during boot-up, detect insertion of a medium into the drive, and start a program when the insertion is detected.

Wydall and Cromer are discussed above. Sakarda discloses a method and apparatus for adding or removing devices from a computer system without restarting. A hard disk couples through device port to Intelligent Device Enabler (IDE) bus. Any devices installed on primary and secondary IDE buses are separately controlled by a PCI/IDE bus controller (Sakarda, col. 5, lines 13-18).. Sakarda merely discloses a PCI/IDE bus controller controls the hard disk which is installed on the primary IDE bus. Sakarda does not disclose or suggest configuring a mode word, detecting insertion of a medium, and starting a program.

8. Claim 26 is being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, and Sakarda as applied to claim 25 above and further in view of Arnold.

Wydall, Cromer, Sakarda, and Arnold, taken alone or in combination, do not disclose, suggest, or render obvious: (1) a processor, (2) a chipset to control a drive, and (3) a memory causing the processor to configure a mode word, detect insertion of a medium into the drive, and start a program when the insertion is detected, and (4) the processor to configure the mode word in one of first, second, third, and fourth modes.

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Wydall, Cromer, Sakarda, and Arnold are discussed above. None of them discloses the above elements as argued above.

9. Claim 27 is being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, Arnold, and Sakarda as applied to claim 26 above and further in view of Homecooking.

Wydall, Cromer, Arnold, Sakarda, and Homecooking, taken alone or in combination, do not disclose, suggest, or render obvious: (1) a processor, (2) a chipset to control a drive, and (3) a memory causing the processor to configure a mode word, detect insertion of a medium into the drive, and start a program when the insertion is detected, and (4) periodically poll the drive when the mode word is configured in the first mode.

Wydall, Cromer, Sakarda, and Homecooking are discussed above.

10. Claim 28 is being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Cromer, Sakarda and Arnold as applied to claim 26 above and further in view of McGee and Pletcher.

Wydall, Cromer, Sakarda, Arnold, McGee, and Pletcher, taken alone or in combination, do not disclose, suggest, or render obvious: (1) a processor, (2) a chipset to control a drive, and (3) a memory causing the processor to configure a mode word, detect insertion of a medium into the drive, and start a program when the insertion is detected, and (4) service an interrupt indicating the insertion of the medium when the mode is configured in one of the second, third, and fourth modes.

Wydall, Cromer, Sakarda, Arnold, McGee, and Pletcher are discussed above.

11. Claim 29 is being rejected under 35 U.S.C. §103(a) as being unpatentable over Wydall, Sakarda and Arnold as applied to claims 25 and 26 above and further in view of McGee and Benhase.

Wydall, Cromer, Sakarda, Arnold, McGee, and Benhase, taken alone or in combination, do not disclose, suggest, or render obvious: (1) a processor, (2) a chipset to control a drive, and (3) a memory causing the processor to configure a mode word, detect insertion of a medium into the drive, and start a program when the insertion is detected, and (4) service the interrupt

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generated by a polling circuit in the chipset when the mode is configured in one of the second and third modes, the polling circuit detecting the insertion of the medium.

Wydall, Cromer, Sakarda, Arnold, McGee, and Benhase are discussed above.

The Examiner failed to establish a prima facie case of obviousness and failed to show there is teaching, suggestion or motivation to combine the references. "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. Interconnect Planning Corp. v. Feil, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." In re Mills 916 F.2d at 682, 16 USPQ2d at 1432; In re Fitch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

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Here, the Examiner failed to show that the cited prior art references suggest the combination. None of Wydall, Cromer, Sakarda, Homecooking, Arnold, McGee, Pletcher, Hoffman and Benhase suggests the combination.

Therefore, Applicants believe that independent claims 1, 9, 13, 21, 25, 31 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicants respectfully request the rejection under 35 U.S.C. §103(a) be withdrawn.

Allowable Subject Matter

1. Applicants note with appreciation the Examiner's indication of allowable subject matter. The Examiner objects to claims 6-7, 18-19, and 30 as being dependent on a rejected base claim, but indicates that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, in light of the above amendments and remarks, Applicants respectfully request the objections to claims 6-7, 18-19, and 30 be withdrawn.

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Conclusion

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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By 
Thinh V. Nguyen
Reg. No. 42,034
Tel.: (714) 557-3800 (Pacific Coast)

12400 Wilshire Boulevard, Seventh Floor
Los Angeles, California 90025

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